



Optimax produces a wide range of optical components including: aspheres, spheres, cylinders, optical domes, prisms and flats, optical coatings, and metrology.

OPTIMAX SYSTEMS, INC.



Optics is the branch of physics which involves the behavior and properties of light, including its interactions with matter and the construction of instruments that use or detect it. Optics usually describes the behavior of visible, ultraviolet, and infrared light.

PHASE III SUCCESS

Optimax Systems, Inc. boasts an average growth rate of 20% and has grown from 120 employees to 280 in the nine years since working with the SBIR program. Its total revenue from 2011 - 2015 due to SBIR enabled processes was valued at \$9,421,573 with 2016 estimated additional revenue of \$3,000,000.

AGENCIES

DoD, NASA

SNAPSHOT

Optimax focuses on developing innovative manufacturing and materials processes in the growing field of optics. The company's innovative and customized manufacturing capabilities have supplied NASA with high-quality imaging lenses and provided optics for several defense and commercial laser and imaging applications.

OPTIMAX SYSTEMS, INC.

6367 Dean Parkway
Ontario, NY 14519

www.optimaxsi.com

Optimax Systems, Inc. has been capitalizing on its expertise in this growing field since 1991 becoming America's largest optics prototype manufacturer. Optimax specializes in Asphere, Cylinder, Sphere, Plano/Flat and Freeform optics in sizes up to 400mm. All parts are manufactured to customer-supplied specifications and include final inspection data for application areas including optical lithography, space-born telescopes, high energy lasers and diagnostic medicine. The company has worked on key programs in aerospace, government research, and defense. In order to grow in this field and solidify its place in the market, Optimax has pursued a unique and carefully crafted strategy for growth.

"Our business model is service-based, not product-based meaning that everything we manufacture is custom and to customer specifications," explains Dr. Jessica DeGroot Nelson, Director of Engineering for Optimax.

In 2009, although already an established player in the optics manufacturing market, Optimax looked to the SBIR program to expand its technical capabilities and grow the company.

"If we're working on something and need to solve a technical gap we use the SBIR program to help us with funding to solve the need. This then helps multiple customers and helps us target early adopters of novel technologies and focus on new materials and techniques that benefit a variety of industries," said Dr. Nelson who went on to further clarify the strategy.

"We specifically look for projects that focus on processes to enable higher precision, more complex geometries and ability to work with novel materials. All of our SBIR projects must meet our objectives and must fit in with our technical suite to solve a need for the market."



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JESSICA DEGROOTE NELSON
DIRECTOR OF ENGINEERING

Optimax has worked to develop a culture centered on innovation and it has paid off – the company boasts an average growth rate of 20% and has grown from 120 employees to 280 in the nine years since working with the SBIR program with approximately 25 jobs directly due to SBIR developed technology. The company’s total revenue from 2011 - 2015 due to SBIR enabled processes was valued at \$9,421,573 with 2016 estimated additional revenue of \$3,000,000.

The company’s latest SBIR commercialization focus is on freeform or conformal optics allowing Optimax to provide a new product offering for its customers. This capability came out of SBIR work and now is accepting commercial orders. The company has participated in many NASA programs and supplied NASA with high-quality imaging lenses designed for position sensing, mapping landforms, and optical analysis. Optimax optics made it possible for the Mars Rover to take its first images of Mars.

The company’s research has yielded successes in: Characterization of new optical glasses and ceramics; Chemo-mechanical processing; VIBE patented polishing technology; Fractional wave aspheres; Conformal, toric and acylinder optics; Wavefront correction optics, and Optimax is now also excelling in the semiconductor arena and serves as a program supplier for multiple semiconductor companies.

Optimax credits its clear commercialization plan as well as a lot of great SBIR program managers and technical points of contact who helped the company learn the process and excel. To craft its successful commercialization plan, the company believes that its success comes from a combination of good timing, hard work and focus.

“We’re obviously always making sure that all of the SBIR topics we work on are very targeted and filling a specific immediate or long-term need. However, that means that we have to forecast the need in the next 5-10 years, and find SBIRs to fulfill those anticipated needs, so there is definitely some good timing involved in that process,” concludes Dr. Nelson.